Cognitive enhancing substances such as amphetamine and modafinil have become popular in recent years to improve acute cognitive performance particularly in environments in which enhanced cognition or intelligence is required. Nutraceutical nootropics, which are natural substances that have the ability to bring about acute or chronic changes in cognition have also been gaining popularity in a range of settings and applications including the workplace, driving and in the amelioration of age related cognitive decline. Huperzine A, Vinpocetine, Acetyl-L-carnitine, *Rhodiola Rosea* and Alpha-lipoic Acid are popular nutritional supplements that have shown promising benefits in improving a range of biological (e.g., blood flow, anti-inflammatory, anti-oxidant, and direct neurotransmitter effects) and cognitive processes from *in vitro*, animal and human clinical research. We report here the first human randomized clinical trial for cognition in which we administer a combination of Huperzine A, Vinpocetine, Acetyl-L-carnitine, *R. Rosea* and Alpha-lipoic acid (called Ceretrophin) vs placebo. Sixty participants (40 females and 20 males, with a mean age of 45.4 years, SD = 12.6) completed either the odd or even items from the Raven Advanced Progressive Matrices (APM) at baseline and the opposite odd or even items at week 4 after consuming either the combination nootropic or placebo. A significant study visit (time) × treatment condition interaction was found: $F(1, 57) = 7.279$, $p = 0.009$, partial $\eta^2 = .113$, with paired samples t-tests revealing a significant improvement in mean APM score from baseline to retest (week 4) ($t(34) = -4.045$, $p < .001$) for the Ceretrophin™ group. Improvements in APM scores could be attributed to the active intervention over the placebo, indicating that the treatment improved general intelligence. Implications for improving our understanding of the biological basis of intelligence and pharmacologically improving human cognition are discussed.

The present study examined whether chronic dosing with Ceretrophin™ improved cognitive performance measured by the APM compared to placebo in healthy participants. The results indicated that performance on the APM was significantly improved in the Ceretrophin™ treatment group after 28 days of treatment. This was a strong effect and equates to an IQ improvement of around 6 IQ points.

Cognitive enhancing drugs may help some patients with moderate to severe Alzheimer's or dementia to function better

Claims that nootropics improve a healthy person's cognitive processes and performance are weak whereas the side effects do pose health risks. While nootropics may help mask

fatigue, procrastination or boredom, they do not make people more intelligent and their effects only last as long as the drug remains in the body.

Intelligence quotient (I.Q.) tests are designed to measure intellectual functioning. An I.Q. score provides a rough numerical assessment of an individual's present level of mental functioning in comparison with that of others. The vast majority of people in the United States have I.Q.s between 80 and 120, with an I.Q. of 100 considered average. To be diagnosed as having mental retardation, a person must have an I.Q. below 70-75, i.e. *significantly* below average. If a person scores below 70 on a properly administered and scored I.Q. test, he or she is in the bottom 2 percent of the American population[10] and meets the first condition necessary to be defined as having mental retardationHealthy